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Current Trends

Revision of the Case Definition of Acquired Immunodeficiency Syndrome for National Reporting—United States

Patients with illnesses that, in retrospect, were manifestations of acquired immunodeficiency syndrome (AIDS) were first described in the summer of 1981 (*1,2*). A case definition of AIDS for national reporting was first published in the *MMWR* in September 1982 (*3,4*). Since then, the definition has undergone minor revisions in the list of diseases used as indicators of underlying cellular immunodeficiency (*5-8*).

Since the 1982 definition was published, human T-cell lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV) has been recognized as the cause of AIDS. The clinical manifestations of HTLV-III/LAV infection may be directly attributable to infection with this virus or the result of secondary conditions occurring as a consequence of immune dysfunction caused by the underlying infection with HTLV-III/LAV. The range of manifestations may include none, nonspecific signs and symptoms of illness, autoimmune and neurologic disorders, a variety of opportunistic infections, and several types of malignancy. AIDS was defined for national reporting before its etiology was known and has encompassed only certain secondary conditions that reliably reflected the presence of a severe immune dysfunction. Current laboratory tests to detect HTLV-III/LAV antibody make it possible to include additional serious conditions in the syndrome, as well as to further improve the specificity of the definition used for reporting cases.

The current case definition of AIDS has provided useful data on disease trends, because it is precise, consistently interpreted, and highly specific. Other manifestations of HTLV-III/LAV infections than those currently proposed to be reported are less specific and less likely to be consistently reported nationally. Milder disease associated with HTLV-III/LAV infections and asymptomatic infections may be reportable in some states and cities but will not be nationally reportable. Because persons with less specific or milder manifestations of HTLV-III/LAV infection may be important in transmitting the virus, estimates of the number of such persons are of value. These estimates can be obtained through epidemiologic studies or special surveys in specific populations.

Issues related to the case definition of AIDS were discussed by the Conference of State and Territorial Epidemiologists (CSTE) at its annual meeting in Madison, Wisconsin, June 2-5, 1985. The CSTE approved the following resolutions:

1. that the case definition of AIDS used for national reporting continue to include only the more severe manifestations of HTLV-III/LAV infection; and

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2. that CDC develop more inclusive definitions and classifications of HTLV-III/LAV infection for diagnosis, treatment, and prevention, as well as for epidemiologic studies and special surveys; and
3. that the following refinements be adopted in the case definition of AIDS used for national reporting:
   a. In the absence of the opportunistic diseases required by the current case definition, any of the following diseases will be considered indicative of AIDS if the patient has a positive serologic or virologic test for HTLV-III/LAV:
      (1) disseminated histoplasmosis (not confined to lungs or lymph nodes), diagnosed by culture, histology, or antigen detection;
      (2) isosporiasis, causing chronic diarrhea (over 1 month), diagnosed by histology or stool microscopy;
      (3) bronchial or pulmonary candidiasis, diagnosed by microscopy or by presence of characteristic white plaques grossly on the bronchial mucosa (not by culture alone);
      (4) non-Hodgkin's lymphoma of high-grade pathologic type (diffuse, undifferentiated) and of B-cell or unknown immunologic phenotype, diagnosed by biopsy;
      (5) histologically confirmed Kaposi's sarcoma in patients who are 60 years old or older when diagnosed.
   b. In the absence of the opportunistic diseases required by the current case definition, a histologically confirmed diagnosis of chronic lymphoid interstitial pneumonitis in a child (under 13 years of age) will be considered indicative of AIDS unless test(s) for HTLV-III/LAV are negative.
   c. Patients who have a lymphoreticular malignancy diagnosed more than 3 months after the diagnosis of an opportunistic disease used as a marker for AIDS will no longer be excluded as AIDS cases.
   d. To increase the specificity of the case definition, patients will be excluded as AIDS cases if they have a negative result on testing for serum antibody to HTLV-III/LAV, have no other type of HTLV-III/LAV test with a positive result, and do not have a low number of T-helper lymphocytes or a low ratio of T-helper to T-suppressor lymphocytes. In the absence of test results, patients satisfying all other criteria in the definition will continue to be included.

CDC will immediately adopt the above amendments to the case definition of AIDS for national reporting. This revision in the case definition will result in the reclassification of less than 1% of cases previously reported to CDC. The number of additional new cases reportable as a result of the revision is expected to be small. Cases included under the revised definition will be distinguishable from cases included under the old definition so as to provide a consistent basis for interpretation of trends. CDC will also develop draft classifications for disease manifestations of HTLV-III/LAV infections other than AIDS, distribute these widely for comment, and publish the results.

Reported by Conference of State and Territorial Epidemiologists; AIDS Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

References

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3. CDC. Hepatitis B virus vaccine safety: report of an inter-agency group. MMWR 1982;31:465-67.
4. CDC. Update on acquired immune deficiency syndrome (AIDS)—United States. MMWR 1982;31:507-14.

AIDS — Continued

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Results of Human T-Lymphotropic Virus Type III Test Kits Reported from Blood Collection Centers — United States, April 22,-May 19, 1985

In March 1983, the U.S. Public Health Service (PHS) recommended that members of groups at increased risk for acquired immunodeficiency syndrome (AIDS) refrain from donating plasma and/or blood (*1*). The recommendation was made to decrease the risk of AIDS associated with the administration of blood or blood products, which accounts for about 2% of all reported AIDS cases in the United States (*2*).

Since that recommendation, evidence has shown that a newly recognized retrovirus, human T-lymphotropic virus type III (HTLV-III), is the cause of AIDS (*3-5*). An ELISA test designed to detect antibody to HTLV-III was developed. A previous report described serologic surveys with use of this test (*6*). In January 1985, the PHS issued provisional recommendations for screening donated blood and plasma for antibody to HTLV-III (*6*). In early March, ELISA test kits developed for detecting antibody to HTLV-III in donated blood and plasma were licensed and made commercially available.

The American Red Cross, the Council of Community Blood Centers, and the American Association of Blood Banks have provided data on test kit results for the 4-week period April 22, to May 19, 1985. During this period, 131 blood centers and banks reported results from screening 593,831 units of blood. An initially reactive test was found for 5,313 units (0.89%); 1,484 units (0.25%) were repeatedly reactive.* Repeatedly reactive rates varied by region of the country, ranging from 0.08% to 0.32% (Table 1).

*A sample that is reactive on two independent ELISA assays (done in duplicate at the same time or singly at different times) is defined as repeatedly reactive. If tested three times, and found reactive twice, it is also defined as repeatedly reactive.

TABLE 1. Number of blood units screened for HTLV-III and percentage repeatedly reactive, by geographic region — United States, April 22,-May 19, 1985

	North-west	North-east	South-west	South-east	Total
Total units tested	27,174	269,032	116,812	180,813	**593,831**
Repeatedly reactive (%)	0.08	0.32	0.24	0.18	**0.25**

HTLV-III — Continued

Reported by the American Red Cross; Council of Community Blood Centers; American Association of Blood Banks; Office of Epidemiology and Biostatistics, Center for Drugs and Biologics, U.S. Food and Drug Administration.

Editorial Note: The data shown represent about 70% of all blood collected in the United States during the 1-month period. They demonstrate rapid implementation of HTLV-III antibody screening nationally. Since these data represent initial results of testing by many centers, future results may vary. It is not possible from these data to determine how many of the repeatedly reactive samples represent true HTLV-III infection or are false positives. Additional data correlating screening results and other test methods, such as Western blot, will be presented at a conference sponsored by CDC, the U.S. Food and Drug Administration, and the National Institutes of Health (NIH) to be held at NIH on July 31, 1985. Organizations wishing to send representatives to this conference or persons wishing to attend should contact one of the three agencies for additional information.

References

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3. Gallo RC, Salahuddin SZ, Popovic M, et al. Frequent detection and isolation of cytopathic retroviruses (HTLV-III) from patients with AIDS and at risk for AIDS. Science 1984;224:500-3.
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Update: Lyme Disease and Cases Occurring during Pregnancy — United States

Lyme disease is a tickborne illness caused by a spirochete, *Borrelia burgdorferi.* The number of cases reported to CDC has increased over the past 2 years so that Lyme disease is now the most commonly reported tickborne illness in the United States. Although it is reportable in only a few states, informal national surveillance was initiated by CDC in 1980 and has been compiled annually since 1982. In 1980, 1982, and 1983, 226, 491, and 599 cases, respectively, were reported in the United States. In 1984, a provisional total of 1,498 cases was reported (Table 2). For Lyme disease patients for whom 1983 and 1984 surveillance data are available, ages ranged from 1 year to 81 years (median 34 years). Fifty-four percent of cases occurred among males. Eighty percent of cases occurred during the 4-month period May-August, with the peak incidence in July.

Since 1980, reported cases of Lyme disease have occurred in an increasing number of states. Lyme disease was acquired in 11 states in 1980 and 1982, 18 states in 1983, and 21 states in 1984. Increasing numbers of cases have occurred in three states outside previously recognized endemic areas: Arkansas, North Carolina, and Texas. Isolated, serologically confirmed cases have been acquired in Florida, Georgia, Indiana, Michigan, New Hampshire, Virginia, and Tennessee. However, in all reporting years, over 90% of all cases were acquired in

Lyme Disease — Continued

only seven states: Connecticut, Massachusetts, Minnesota, New Jersey, New York, Rhode Island, and Wisconsin. In addition to the states listed in Table 1, isolated, clinically suspected but unconfirmed cases of Lyme disease have been reported from Kentucky, Maine, Missouri, Montana, Ohio, and Vermont.

The possible association between Lyme disease during pregnancy and adverse outcome has recently received attention. Transplacental transmission of *B. burgdorferi* has been documented in a pregnant woman with Lyme disease who did not receive antimicrobial therapy. She delivered an infant with a congenital heart defect (*1*). The relationship between the intrauterine infection and congenital heart defect has not been established. In an effort to assess the risk of Lyme disease during pregnancy, the state and territorial epidemiologists and CDC have established a registry to enroll cases of Lyme disease in pregnant women before the outcome of pregnancy is known. Of the 19 pregnancies evaluated to date, none resulted in a child with a congenital heart defect. However, other adverse outcomes were found,

TABLE 2. Lyme disease,* by state where acquired — United States, 1980, 1982-1984

Region	Year			
	1980	1982	1983	1984†
New England				
N.H.			1	
Mass.	11	15	13	33
R.I.	3	29	20	21
Conn.	52	135	78	483
Mid-Atlantic				
N.Y.	7	170	267	446
N.J.	10	57	70	155
P.A.	1	2		5
South Atlantic				
Del.		1	4	1
Va.				1
Md.	1	1	5	12
N.C.			1	16
Ga.	1			1
Fla.				1
North Central				
Wis.	25	58	69	174
Minn.	8	22	55	87
Mich.			1	
Ind.				1
South Central				
Ark.			1	4
Tenn.			1	1
Tex.			1	18
Mountain/Pacific				
Utah		1	1	
Nev.	1			
Oreg.			1	10
Calif.			11	24
Unknown	106			4
Total	**226**	**491**	**599**	**1,498**

*Case definition varies by reporting year and state.

†Provisional data.

Lyme Disease — Continued

including intrauterine fetal demise in the second trimester, prematurity, and developmental delay with cortical blindness. None of the adverse outcomes have been documented to be caused by Lyme disease. Outcomes of 14 of the pregnancies were completely normal. The risk of adverse outcome for pregnancies complicated by Lyme disease is not currently known.

Reported by State and Territorial Epidemiologists; Respiratory and Special Pathogens Epidemiology Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Lyme disease, first described in 1977 (*2*), is characterized by a distinctive skin lesion, erythema chronicum migrans (ECM), which starts as a red macule at the site of a tick bite and expands to become an annular erythema with central clearing. Some patients develop systemic manifestations, including neurologic, cardiac, and arthritic abnormalities weeks to months after the skin lesion. *B. burgdorferi* has been isolated from cerebrospinal fluid (*3*) and visualized in synovia of patients with Lyme disease (*4*), suggesting the spirochetes can persist in various sites in the body and may be responsible for the systemic manifestations.

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TABLE I. Summary—cases of specified notifiable diseases, United States

Disease	25th Week Ending			Cumulative, 25th Week Ending		
	June 22, 1985	June 23, 1984	Median 1980-1984	June 22, 1985	June 23, 1984	Median 1980-1984
Acquired Immunodeficiency Syndrome (AIDS)	252	79	N	3,541	1,845	N
Aseptic meningitis	148	122	143	1,942	2,041	2,041
Encephalitis: Primary (arthropod-borne & unspec.)	19	22	22	424	390	393
Post-infectious	2	10	4	67	63	53
Gonorrhea: Civilian	16,210	16,470	19,268	384,108	381,734	449,368
Military	342	313	371	8,823	9,767	12,757
Hepatitis: Type A	398	376	376	10,120	9,938	10,600
Type B	514	473	468	12,024	11,938	10,075
Non A, Non B	75	71	N	1,941	1,823	N
Unspecified	141	100	170	2,661	2,313	4,066
Legionellosis	14	9	N	272	260	N
Leprosy	8	3	2	159	112	104
Malaria	18	16	16	358	366	441
Measles: Total*	102	67	75	1,711	1,688	1,688
Indigenous	93	60	N	1,378	1,499	N
Imported	9	7	N	333	189	N
Meningococcal infections: Total	42	53	50	1,372	1,623	1,639
Civilian	42	53	49	1,369	1,620	1,624
Military	-	-	-	3	3	8
Mumps	44	72	72	1,853	1,855	2,731
Pertussis	19	35	27	690	964	529
Rubella (German measles)	54	13	33	322	407	1,445
Syphilis (Primary & Secondary): Civilian	498	518	611	11,854	13,282	14,384
Military	-	8	8	82	167	181
Toxic Shock syndrome	10	12	N	181	236	N
Tuberculosis	585	451	499	9,818	9,987	12,069
Tularemia	1	8	10	52	96	90
Typhoid fever	4	8	8	129	152	182
Typhus fever, tick-borne (RMSF)	28	48	48	190	271	325
Rabies, animal	66	88	158	2,367	2,455	3,210

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1985		Cum. 1985
Anthrax	-	Leptospirosis (N.Y. City 1, Hawaii 1)	13
Botulism: Foodborne (Wash. 1)	5	Plague	4
Infant	22	Poliomyelitis: Total	2
Other	-	Paralytic	2
Brucellosis (Minn. 1, Tex. 1)	52	Psittacosis (Fla. 1)	57
Cholera	-	Rabies, human	-
Congenital rubella syndrome	-	Tetanus	28
Congenital syphilis, ages < 1 year	74	Trichinosis (N.J. 3)	37
Diphtheria	1	Typhus fever, flea-borne (endemic, murine)	5

*Seven of the 102 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending June 22, 1985 and June 23, 1984 (25th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1985	1985	Cum. 1985	Cum. 1985	Cum. 1985	Cum. 1984	1985	1985	1985	1985	1985	Cum. 1985
UNITED STATES	3,541	148	424	67	384,108	381,734	398	514	75	141	14	159
NEW ENGLAND	121	4	12	-	11,379	10,843	9	42	1	8	-	3
Maine	5	-	-	-	474	434	-	4	-	-	-	-
N.H.	-	-	4	-	235	316	-	-	-	-	-	-
Vt.	-	-	-	-	139	182	-	-	-	-	-	-
Mass.	72	1	8	-	4,335	4,322	2	31	-	8	-	3
R.I.	4	1	-	-	856	703	1	4	1	-	-	-
Conn.	40	2	-	-	5,340	4,886	6	3	-	-	-	-
MID ATLANTIC	1,391	17	63	5	57,392	52,206	25	72	10	6	-	14
Upstate N.Y.	170	5	21	4	7,570	7,688	8	21	4	3	-	-
N.Y. City	915	2	4	-	28,362	22,261	2	3	-	-	-	14
N.J.	217	6	16	-	9,516	8,614	4	20	2	1	-	-
Pa.	89	4	22	1	11,944	13,643	11	28	4	2	-	-
E.N. CENTRAL	141	7	92	14	53,452	52,024	21	48	3	4	6	4
Ohio	24	5	38	4	13,916	13,599	7	11	-	1	2	2
Ind.	6	-	13	1	5,186	5,729	4	13	-	-	-	-
Ill.	73	-	12	6	14,305	11,857	2	2	1	1	-	-
Mich.	25	2	23	-	15,136	14,875	8	22	2	2	4	2
Wis.	13	-	6	3	4,909	5,964	-	-	-	-	-	-
W.N. CENTRAL	38	2	30	3	19,028	18,141	7	21	2	1	3	-
Minn.	7	1	14	1	2,873	2,601	3	5	2	-	-	-
Iowa	5	-	10	-	2,044	2,055	1	3	-	1	-	-
Mo.	20	1	-	-	8,948	8,695	2	5	-	-	3	-
N. Dak.	-	-	-	1	129	180	-	-	-	-	-	-
S. Dak.	-	U	-	-	337	477	U	U	U	U	U	-
Nebr.	2	-	1	-	1,642	1,222	1	7	-	-	-	-
Kans.	4	-	5	1	3,055	2,911	-	1	-	-	-	-
S. ATLANTIC	550	28	52	21	83,225	96,958	27	93	21	15	2	4
Del.	7	-	1	-	1,865	1,724	3	-	-	-	-	-
Md.	63	7	14	1	13,306	10,912	1	15	5	4	-	1
D.C.	67	-	-	-	6,915	7,060	1	7	-	-	-	-
Va.	30	4	14	4	8,697	9,089	4	12	2	1	-	-
W. Va.	3	-	4	-	1,170	1,175	-	1	-	1	-	-
N.C.	28	3	16	-	16,027	15,508	4	22	2	3	1	2
S.C.	6	-	3	-	10,402	9,172	3	10	2	-	1	-
Ga.	84	3	-	-	-	18,791	-	12	1	-	-	-
Fla.	262	11	-	16	24,843	23,527	11	14	9	6	-	1
E.S. CENTRAL	31	14	18	4	33,147	32,142	4	27	1	1	-	-
Ky.	11	1	5	-	3,696	4,050	2	4	-	1	-	-
Tenn.	4	1	4	-	13,118	13,444	2	15	1	-	-	-
Ala.	14	12	7	4	10,800	10,609	-	4	-	-	-	-
Miss.	2	-	2	-	5,533	4,039	-	4	-	-	-	-
W.S. CENTRAL	281	38	46	1	53,117	52,404	56	37	5	46	1	12
Ark.	2	-	1	1	5,053	4,709	-	-	-	1	-	1
La.	53	2	2	-	11,528	11,976	2	6	1	2	1	1
Okla.	5	-	11	-	5,414	5,647	1	2	-	1	-	-
Tex.	221	36	32	-	31,122	30,072	53	29	4	42	-	10
MOUNTAIN	55	4	18	3	12,452	12,247	68	24	10	13	-	5
Mont.	-	-	-	-	351	536	2	-	-	-	-	-
Idaho	-	1	-	-	398	592	1	-	-	-	-	-
Wyo.	-	-	1	-	303	365	-	-	-	-	-	-
Colo.	25	3	5	-	3,780	3,527	10	5	-	6	-	1
N. Mex.	5	-	1	-	1,405	1,362	13	7	2	-	-	-
Ariz.	18	-	2	-	3,707	3,332	29	8	7	5	-	1
Utah	4	-	7	3	515	606	9	3	-	-	-	2
Nev.	3	-	2	-	1,993	1,927	4	1	1	2	-	1
PACIFIC	933	34	93	16	60,916	54,769	181	150	22	47	2	117
Wash.	45	2	9	-	4,134	3,844	2	4	2	-	-	26
Oreg.	13	-	-	-	2,997	3,030	11	5	1	-	-	2
Calif.	856	29	82	16	51,473	45,648	167	134	19	47	2	80
Alaska	2	-	2	-	1,437	1,334	-	2	-	-	-	-
Hawaii	17	3	-	-	875	913	1	5	-	-	-	9
Guam	-	U	-	-	67	117	U	U	U	U	U	1
P.R.	36	7	4	1	1,695	1,647	5	26	1	7	-	2
V.I.	2	-	-	-	235	231	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	-	146	-	U	U	U	U	U	20

N: Not notifiable U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending June 22, 1985 and June 23, 1984 (25th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
	Cum. 1985	1985	Cum. 1985	1985	Cum. 1985	Cum. 1984	Cum. 1985	1985	Cum. 1985	1985	Cum. 1985	Cum. 1984	1985	Cum. 1985	Cum. 1984
UNITED STATES	358	93	1,378	9	333	1,688	1,372	44	1,853	19	690	964	54	322	407
NEW ENGLAND	20	2	32	-	87	91	64	1	37	-	35	21	-	9	17
Maine	3	-	-	-	-	-	2	-	6	-	2	-	-	-	1
N.H.	2	-	-	-	-	36	5	-	6	-	18	4	-	2	-
Vt.	-	-	-	-	-	4	12	-	2	-	2	11	-	-	-
Mass.	10	2	28	-	84	38	11	-	13	-	5	5	-	6	16
R.I.	2	-	-	-	-	-	10	1	6	-	4	1	-	-	-
Conn.	3	-	4	-	3	13	24	-	4	-	4	-	-	1	-
MID ATLANTIC	54	13	134	4	26	98	228	4	205	1	60	70	43	117	136
Upstate N.Y.	19	9	66	1†	10	23	96	4	116	1	27	47	1	12	93
N.Y. City	15	1	35	2†	7	65	25	-	14	-	9	3	42	84	31
N.J.	6	3	10	1§	9	6	37	-	25	-	2	5	-	9	11
Pa.	14	-	23	-	-	4	70	-	50	-	22	15	-	12	1
E.N. CENTRAL	17	-	278	1	125	608	246	8	713	6	81	266	-	20	64
Ohio	3	-	-	1§	43	7	78	2	206	4	19	47	-	-	2
Ind.	1	-	-	-	1	3	36	-	30	-	11	176	-	-	2
Ill.	1	-	191	-	66	162	54	3	142	1	13	18	-	5	35
Mich.	11	-	36	-	15	413	54	2	271	1	15	12	-	14	18
Wis.	1	-	51	-	-	23	24	1	64	-	23	13	-	1	7
W.N. CENTRAL	13	-	1	-	6	7	76	1	62	1	61	78	2	18	28
Minn.	6	-	-	-	4	2	17	-	1	1	14	8	-	2	2
Iowa	1	-	-	-	-	-	7	-	8	-	3	3	-	-	-
Mo.	2	-	-	-	2	2	32	1	11	-	12	14	2	7	-
N. Dak.	1	-	-	-	-	-	3	-	2	-	6	-	-	2	3
S. Dak.	1	U	-	U	-	-	1	U	-	U	1	3	U	-	-
Nebr.	1	-	-	-	-	-	6	-	2	-	3	2	-	-	-
Kans.	1	-	1	-	-	3	10	-	38	-	22	48	-	7	23
S. ATLANTIC	51	15	181	-	6	27	264	7	154	6	126	80	-	34	20
Del.	-	-	-	-	-	-	6	-	1	-	-	1	-	1	-
Md.	13	6	31	-	4	9	33	-	19	1	31	12	-	1	1
D.C.	4	-	-	-	1	5	6	-	-	-	-	-	-	-	-
Va.	10	-	18	-	1	2	33	3	28	1	5	10	-	1	-
W. Va.	1	-	31	-	-	-	5	2	51	1	1	7	-	9	-
N.C.	5	6	9	-	-	-	36	-	9	1	9	17	-	-	-
S.C.	-	-	-	-	-	-	28	-	7	-	-	2	-	3	-
Ga.	3	-	8	-	-	-	48	-	13	2	48	7	-	4	2
Fla.	15	3	84	-	-	11	69	2	26	-	32	24	-	15	17
E.S. CENTRAL	6	-	-	-	1	3	60	4	17	3	9	5	1	2	7
Ky.	2	-	-	-	-	1	5	3	4	2	3	1	1	2	3
Tenn.	-	-	-	-	-	2	20	1	11	1	2	2	-	-	-
Ala.	3	-	-	-	-	-	20	-	-	-	2	-	-	-	1
Miss.	1	-	-	-	1	-	15	-	2	-	2	2	-	-	3
W.S. CENTRAL	28	26	215	-	7	335	119	4	198	-	116	222	1	22	6
Ark.	-	-	-	-	-	1	11	-	4	-	10	10	-	1	3
La.	-	9	27	-	-	-	19	-	2	-	5	3	-	-	-
Okla.	1	-	-	-	-	5	24	N	N	-	64	200	-	1	-
Tex.	27	17	188	-	7	329	65	4	192	-	37	9	1	20	3
MOUNTAIN	20	18	412	-	43	138	63	6	188	-	35	68	-	4	12
Mont.	-	-	122	-	17	-	4	-	7	-	3	17	-	-	-
Idaho	1	6	95	-	18	23	2	1	6	-	-	2	-	1	1
Wyo.	-	-	-	-	-	-	5	-	2	-	-	3	-	-	2
Colo.	5	-	-	-	6	-	17	1	16	-	10	25	-	-	2
N. Mex.	8	-	1	-	2	88	8	N	N	-	4	5	-	2	-
Ariz.	3	12	194	-	-	-	18	2	90	-	10	9	-	1	-
Utah	2	-	-	-	-	27	7	-	5	-	8	5	-	-	7
Nev.	1	-	-	-	-	-	2	2	62	-	-	2	-	-	-
PACIFIC	149	19	125	4	32	381	252	9	279	2	167	154	7	96	117
Wash.	11	-	1	-	-	90	42	2	23	-	24	27	-	2	1
Oreg.	8	-	3	-	-	-	25	N	N	-	19	9	-	2	-
Calif.	113	18	110	3†	27	256	176	7	244	2	112	52	3	58	113
Alaska	2	-	-	-	-	-	6	-	3	-	9	-	-	1	1
Hawaii	15	1	11	1†	5	35	3	-	9	-	3	66	4	33	2
Guam	1	U	10	U	-	90	-	U	4	U	-	-	U	1	4
P.R.	-	-	46	-	-	1	9	7	107	1	5	-	1	20	5
V.I.	-	-	4	-	6	-	-	-	3	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	U	-	-	-	U	3	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending June 22, 1985 and June 23, 1984 (25th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1985	Cum. 1984	1985	Cum. 1985	Cum. 1984	Cum. 1985	Cum. 1985	Cum. 1985	Cum. 1985
UNITED STATES	11,854	13,282	10	9,818	9,987	52	129	190 +30	2,367
NEW ENGLAND	261	268	1	322	277	-	6	2 +1	8
Maine	7	2	-	22	13	-	-	-	-
N.H.	6	4	-	8	18	-	-	-	-
Vt.	3	1	1	4	3	-	-	-	-
Mass.	138	159	-	197	148	-	5	2 1	5
R.I.	7	8	-	27	25	-	-	-	-
Conn.	100	94	-	64	70	-	1	-	3
MID ATLANTIC	1,656	1,841	-	1,786	1,809	1	18	1 +1	188
Upstate N.Y.	115	150	-	296	282	-	7	1 1	45
N.Y. City	1,031	1,132	-	911	752	1	5	-	-
N.J.	342	339	-	212	388	-	5	-	10
Pa.	168	220	-	367	387	-	1	-	133
E.N. CENTRAL	545	595	1	1,175	1,318	-	13	17 +3	74
Ohio	74	121	1	213	264	-	3	15 2	15
Ind.	52	66	-	142	137	-	3	-	10
Ill.	275	177	-	512	549	-	1	-	13
Mich.	114	192	-	248	286	-	4	2 1	7
Wis.	30	39	-	60	82	-	2	-	29
W.N. CENTRAL	119	213	2	256	303	19	4	17 +5	418
Minn.	28	60	1	45	52	1	3	-	70
Iowa	14	10	-	37	34	-	-	-	85
Mo.	55	114	-	121	143	15	-	1	22
N. Dak.	1	4	-	2	8	-	-	1	55
S. Dak.	4	-	U	13	11	2	-	-	134
Nebr.	5	9	-	10	17	1	1	1	22
Kans.	12	16	1	28	38	-	-	14 5	30
S. ATLANTIC	2,921	3,915	2	2,043	2,093	5	13	78 +11	635
Del.	17	10	-	18	26	1	-	-	-
Md.	183	262	-	188	233	-	2	7 1	315
D.C.	178	146	-	87	81	-	-	-	-
Va.	151	209	-	184	210	-	2	8 2	84
W. Va.	8	11	-	48	71	-	-	1	14
N.C.	323	393	2	247	310	4	1	32 5	3
S.C.	384	362	-	257	244	-	-	22 2	38
Ga.	-	676	-	330	282	-	-	5	99
Fla.	1,677	1,846	-	684	636	-	8	3 1	82
E.S. CENTRAL	1,009	850	-	908	931	3	3	18 +4	116
Ky.	33	52	-	194	213	-	1	-	18
Tenn.	284	242	-	279	291	3	-	10 3	25
Ala.	316	287	-	287	284	-	2	4	71
Miss.	376	269	-	148	143	-	-	4 1	2
W.S. CENTRAL	2,977	3,177	-	1,116	1,111	14	8	49 +4	471
Ark.	151	106	-	110	121	5	-	7	75
La.	515	592	-	177	152	-	-	-	10
Okla.	83	87	-	128	111	7	-	36 3	58
Tex.	2,228	2,392	-	701	727	2	8	6 1	328
MOUNTAIN	353	317	2	238	264	8	5	6	198
Mont.	2	2	-	29	13	2	-	3	104
Idaho	3	14	-	11	14	-	-	1	2
Wyo.	5	5	1	5	-	-	-	2	11
Colo.	89	70	1	30	28	1	4	-	6
N. Mex.	45	39	-	45	50	2	1	-	2
Ariz.	187	128	-	106	125	1	-	-	72
Utah	4	10	-	6	19	2	-	-	-
Nev.	18	49	-	6	15	-	-	-	1
PACIFIC	2,013	2,106	2	1,974	1,881	2	59	2 +1	259
Wash.	57	69	-	108	96	-	-	-	3
Oreg.	43	67	-	71	73	1	-	-	1
Calif.	1,872	1,930	2	1,647	1,580	1	56	2 1	255
Alaska	2	3	-	57	28	-	-	-	-
Hawaii	39	37	-	91	104	-	3	-	-
Guam	2	-	U	14	26	-	-	-	-
P.R.	390	418	-	164	205	-	1	-	18
V.I.	1	7	-	1	3	-	52	-	-
Pac. Trust Terr.	13	-	U	16	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending June 22, 1985 (25th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	636	443	115	40	19	19	35
Boston, Mass.	184	122	35	10	8	9	19
Bridgeport, Conn.	41	27	10	3	-	1	2
Cambridge, Mass.	23	16	7	-	-	-	3
Fall River, Mass.	33	25	6	2	-	-	-
Hartford, Conn.	38	31	2	3	1	1	1
Lowell, Mass.	26	13	11	1	1	-	1
Lynn, Mass.	18	13	2	3	-	-	-
New Bedford, Mass.	26	22	3	1	-	-	1
New Haven, Conn.	36	23	6	5	1	1	1
Providence, R.I.	63	45	8	2	3	5	2
Somerville, Mass.	13	12	1	-	-	-	2
Springfield, Mass.	44	31	9	1	2	1	2
Waterbury, Conn.	35	25	5	5	-	-	-
Worcester, Mass.	56	38	10	4	3	1	1
MID ATLANTIC	2,606	1,727	547	210	67	55	111
Albany, N.Y.	38	29	6	2	-	1	1
Allentown, Pa.	18	12	5	1	-	-	-
Buffalo, N.Y.	91	62	22	2	-	5	12
Camden, N.J.	33	22	9	1	1	-	2
Elizabeth, N.J.	26	20	5	-	1	-	1
Erie, Pa.†	33	25	6	1	1	-	2
Jersey City, N.J.	36	25	7	3	1	-	1
N.Y. City, N.Y.	1,372	874	301	128	40	29	47
Newark, N.J.	77	43	17	11	2	4	5
Paterson, N.J.	30	22	6	1	-	1	1
Philadelphia, Pa.	392	262	79	31	13	7	21
Pittsburgh, Pa.†	64	39	16	4	2	3	1
Reading, Pa.	32	26	5	1	-	-	2
Rochester, N.Y.	124	97	15	8	3	1	5
Schenectady, N.Y.	30	23	4	3	-	-	-
Scranton, Pa.†	36	29	7	-	-	-	2
Syracuse, N.Y.	93	60	23	4	3	3	2
Trenton, N.J.	31	20	4	7	-	-	1
Utica, N.Y.	27	19	8	-	-	-	2
Yonkers, N.Y.	23	18	2	2	-	1	3
E.N. CENTRAL	2,179	1,496	381	141	73	87	85
Akron, Ohio	66	45	13	5	2	1	4
Canton, Ohio	44	35	8	1	-	-	1
Chicago, Ill.§	553	462	11	26	16	37	16
Cincinnati, Ohio	132	91	25	8	5	3	18
Cleveland, Ohio	142	71	44	12	9	6	2
Columbus, Ohio	131	76	33	14	5	3	5
Dayton, Ohio	109	73	26	8	1	1	2
Detroit, Mich.	263	156	61	28	10	8	3
Evansville, Ind.	30	22	5	1	2	-	1
Fort Wayne, Ind.	40	26	7	1	6	-	2
Gary, Ind.	12	4	6	-	1	1	-
Grand Rapids, Mich.	44	35	7	2	-	-	2
Indianapolis, Ind.	168	101	44	12	3	8	2
Madison, Wis.	44	29	10	1	4	-	2
Milwaukee, Wis.	109	69	28	6	2	4	5
Peoria, Ill.	46	30	5	5	1	5	4
Rockford, Ill.	62	44	13	1	-	4	6
South Bend, Ind.	48	32	7	4	3	2	3
Toledo, Ohio	79	54	18	4	2	1	6
Youngstown, Ohio	57	41	10	2	1	3	1
W.N. CENTRAL	657	458	120	32	18	29	23
Des Moines, Iowa	39	30	7	-	1	1	2
Duluth, Minn.	28	23	3	2	-	-	-
Kansas City, Kans.	26	16	7	1	1	1	-
Kansas City, Mo.	103	68	23	5	4	3	6
Lincoln, Nebr.	27	16	7	1	1	2	3
Minneapolis, Minn.	78	50	15	6	1	6	-
Omaha, Nebr.	81	53	17	1	2	8	1
St. Louis, Mo.	147	107	21	10	4	5	7
St. Paul, Minn.	58	46	8	4	-	-	-
Wichita, Kans.	70	49	12	2	4	3	4

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,295	754	333	105	43	60	55
Atlanta, Ga.	124	74	31	11	3	5	1
Baltimore, Md.	222	135	54	17	9	7	6
Charlotte, N.C.	68	32	23	7	3	3	3
Jacksonville, Fla.	99	57	31	5	3	3	4
Miami, Fla.	152	79	52	9	5	7	1
Norfolk, Va.	61	31	13	7	2	8	4
Richmond, Va.	80	40	31	6	1	2	10
Savannah, Ga.	44	32	8	2	2	-	7
St. Petersburg, Fla.	103	83	14	2	-	4	5
Tampa, Fla.	69	39	15	9	2	4	7
Washington, D.C.	247	134	54	30	12	17	6
Wilmington, Del.	26	18	7	-	1	-	1
E.S. CENTRAL	870	557	211	46	25	31	35
Birmingham, Ala.	143	92	35	6	4	6	1
Chattanooga, Tenn.	48	34	7	2	1	4	3
Knoxville, Tenn.	79	55	14	5	3	2	9
Louisville, Ky.	108	71	22	6	1	8	2
Memphis, Tenn.	212	126	60	17	9	-	8
Mobile, Ala.	80	48	21	3	2	6	4
Montgomery, Ala.	65	44	16	2	1	2	-
Nashville, Tenn.	135	87	36	5	4	3	8
W.S. CENTRAL	1,356	774	340	121	51	70	63
Austin, Tex.	60	40	7	7	2	4	5
Baton Rouge, La.	39	20	9	2	4	4	3
Corpus Christi, Tex.	45	33	6	2	-	4	-
Dallas, Tex.	179	102	49	21	3	4	11
El Paso, Tex.	41	25	7	3	1	5	2
Fort Worth, Tex.	107	59	22	13	5	8	6
Houston, Tex.	329	160	101	39	15	14	12
Little Rock, Ark.	74	37	21	6	6	4	7
New Orleans, La.	163	99	45	8	6	5	3
San Antonio, Tex.	157	89	41	14	7	6	8
Shreveport, La.	72	52	10	1	1	8	3
Tulsa, Okla.	90	58	22	5	1	4	3
MOUNTAIN	600	370	142	48	21	19	38
Albuquerque, N.Mex.	54	32	13	4	1	4	2
Colo. Springs, Colo.	34	23	4	5	1	1	1
Denver, Colo.	107	69	28	5	1	4	9
Las Vegas, Nev.	86	45	25	8	7	1	8
Ogden, Utah	15	9	4	1	-	1	-
Phoenix, Ariz.	156	100	29	14	7	6	7
Pueblo, Colo.	24	13	9	1	1	-	3
Salt Lake City, Utah	36	24	8	2	2	-	-
Tucson, Ariz.	88	55	22	8	1	2	8
PACIFIC	1,905	1,194	391	176	82	55	117
Berkeley, Calif.	21	16	1	4	-	-	-
Fresno, Calif.	62	36	9	10	4	3	4
Glendale, Calif.	20	14	4	1	1	-	1
Honolulu, Hawaii	58	35	15	6	2	-	6
Long Beach, Calif.	81	53	20	4	2	2	7
Los Angeles, Calif.	519	336	109	43	14	10	21
Oakland, Calif.	68	44	10	9	1	4	5
Pasadena, Calif.	28	20	5	2	-	1	1
Portland, Oreg.	111	80	16	7	3	5	7
Sacramento, Calif.	142	93	24	11	13	1	11
San Diego, Calif.	148	81	23	22	16	6	22
San Francisco, Calif.	172	102	39	21	5	5	4
San Jose, Calif.	206	127	41	21	10	7	14
Seattle, Wash.	142	73	54	7	4	4	5
Spokane, Wash.	51	34	10	1	4	2	3
Tacoma, Wash.	76	50	11	7	3	5	6
TOTAL	12,104††	7,773	2,580	919	399	425	562

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Lyme Disease — Continued

Because antimicrobial therapy decreases the morbidity from Lyme disease, it is important that cases be recognized and patients treated. In endemic areas, Lyme disease can be diagnosed if the typical ECM skin lesion is present. Serologic tests have been developed to measure antibody against *B. burgdorferi* (*5,6*). These tests, when positive, can help support the clinical suspicion of Lyme disease in atypical cases, such as those without ECM or those occurring outside recognized endemic areas. However, serologic tests are often negative, particularly early in Lyme disease. Therefore, a negative result does not exclude the diagnosis early in the course of the illness (*7*). Antimicrobial therapy with oral tetracycline is recommended for patients with early manifestations of Lyme disease; penicillin and erythromycin are also effective (*8*). Children and pregnant women should be treated with penicillin. Some of the neurologic abnormalities, as well as established arthritis, have been found to respond to high dose intravenous penicillin (*9,10*).

Previously, Lyme disease was recognized in three endemic areas: the coastal areas of the northeast (Connecticut, Delaware, Maryland, Massachusetts, New York, New Jersey, Pennsylvania, Rhode Island), the midwest (Minnesota, Wisconsin), and the west (California, Nevada, Oregon, Utah). Although these areas are within the range of the known tick vectors, *I. dammini* and *I. pacificus*, some areas where Lyme disease has occurred are not. However, *B. burgdorferi* has been found in *Amblyomma americanum* (*11*) and *Dermacentor variabilis*; these and other ticks may be vectors in some areas.

It is not known to what extent the increase in numbers and widening geographic distribution of cases reflect increased recognition or reporting rather than increased incidence of the disease or spread of the vectors and/or spirochete. Increased reporting is probably responsible for part of the greater than 500% increase in reported cases in Connecticut in 1984, because an active surveillance system was initiated in the state that year. Underreporting is suspected in some states, such as Massachusetts, where officials think far greater numbers of cases are occurring than are reported. CDC encourages reporting of cases of Lyme disease to state and local health departments so the geographic distribution and temporal trends can be better defined.

Since transplacental transmission of *B. burgdorferi* has been documented, it will be important to determine whether maternal infection with *B. burgdorferi* is associated with an increased risk of adverse pregnancy outcome. Cases of Lyme disease during pregnancy should be reported to state health departments and CDC (telephone [404] 329-3687) before delivery so the types and approximate frequency of any adverse outcome can be determined and appropriate diagnostic tests obtained.

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Epidemiologic Notes and Reports

Lead Poisoning in a Capacitor and Resistor Plant — Colorado

In July 1984, the Mesa County, Colorado, Health Department was notified of a local electrical component manufacturing plant worker who had a blood lead level of 105 μg/dl. At the plant, fritted leaded glass was used in a vitreous enameling process to coat capacitors and resistors, and during the dipping, sandblasting, and sanding processes, a fine dust containing lead borosilicate was produced. The Occupational Safety and Health Administration (OSHA) began an investigation at the component plant July 30, 1984. The plant was found to be heavily contaminated, with air lead levels ranging from 61 $\mu g/m^3$ to 1,700 $\mu g/m^3$, in excess of the OSHA Permissible Exposure Level (PEL) of 40 $\mu g/m^3$ per 10-hour working day.

Eighty-one of approximately 94 additional workers from the plant were tested and found to have blood lead levels ranging from 3 μg/dl to 135 μg/dl. Among these were two pregnant woman, one of approximately 8 weeks' gestation with a blood lead level of 61 μg/dl, and a second of 8-13 weeks' gestation with a blood lead level of 27 μg/dl. Thirty-eight (42%) of 94 workers were removed from the workplace because of elevated blood lead levels 50 μg/dl or greater. Nineteen of the workers received chelation therapy. Fourteen (58%) of 24 workers with elevated blood lead levels who were sent for additional testing were found to have evidence of possible neurologic impairment on the basis of the Halstead-Reitan Neuropsychological Test Battery; these workers have been removed from the exposure site.

Although the plant's management was apparently unaware of lead in the raw material, the process in question required the low-melting-point leaded glass for adequate coating of the components. The plant was cited and fined for violations of numerous regulations; OSHA made engineering recommendations and enforced requirements for respirators, protective clothing, and periodic air and blood lead monitoring.

In addition, children of workers were potentially exposed to lead dust brought home on workers' clothes. The mean lead level in 20 exposed children under 6 years old (13.4 μg/dl) was significantly above that in 31 unexposed comparison children under 6 years of age (7.1 μg/dl) by Student's t-test. No children were found to be above the CDC guideline for lead toxicity in children (25 μg/dl of blood lead and erythrocyte protoporphyrin level 35 μg/dl or greater) (*1*), but a repeat screening of workers' children in November 1984 found three with blood lead levels above this new guideline. The children were referred for $CaNa_2$ EDTA mobilization tests and were not found to have elevated total body burdens of lead. Chelation therapy was not necessary (*2*).

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Lead Poisoning — Continued

Health Dept, R Hopkins, MD, Colorado Dept of Health; J Ryan, Occupational Safety and Health Administration Region VIII; Div of Field Svcs, Epidemiology Program Office, Special Studies Br, Chronic Diseases Div, Center for Environmental Health, CDC.

Editorial Note: This type of plant and process represents a new source of lead poisoning in workers and potential exposure for their families. OSHA standards were violated, but with consultation and enforcement of existing rules, the plant has been able to maintain operations while bringing this exposure problem under control, as shown by repeated monitoring of blood lead levels and area air samples.

The blood lead test is one measure of the amount of lead in the body and is the best available measure of recent lead absorption. Adults not exposed to lead at work usually have a blood lead level less than 30 μg/dl; the average is less than 15 μg/dl (*3,4*). For purposes of compliance with the OSHA lead standard, a blood lead level averaging 50 μg/dl or more represents excessive lead exposure, and the affected employee must be removed from further lead exposure until his blood lead level is less than 40 μg/dl. The standard protects the earnings, seniority, and other benefits of employees who, because of excessive lead absorption, are removed from jobs involving lead exposure (*5*).

A World Health Organization study group recommended that blood lead levels not exceed 30 μg/dl in occupationally exposed women of childbearing age and not exceed 40 μg/dl in other workers (*6*). In a pregnant woman, lead crosses the placenta, and lead concentrations in umbilical cord blood are nearly equal to those in maternal blood (*7*). Since the growing brain of the fetus is likely to be at least as sensitive to the neurologic effects of lead as the brain of a young child, umbilical cord levels should be at least below 25 μg/dl (*2*).

Lead dust can cling to the skin, shoes, clothing, and vehicles of workers and can thus be carried from workplace to home. Previous studies have demonstrated the potential for elevated blood lead levels in children of workers (*8*). It is important, therefore, when high levels are seen in workers, to evaluate potential familial exposure, as was done in this instance. Strict compliance with OSHA standards is quite effective in decreasing this type of exposure. These standards provide that employees exposed to lead levels above the PEL be provided with the following at the employer's expense: protective work clothing and equipment, cleaning of work clothing, change rooms, showers, and filtered-air lunchrooms. However, many occupational exposures to lead are not covered by the OSHA standards. Companies with fewer than 10 employees (cottage industries, "hobby" production of pottery and stained glasswork, and home manufacturing of bullets and fishing sinkers) are excluded from the OSHA standards.

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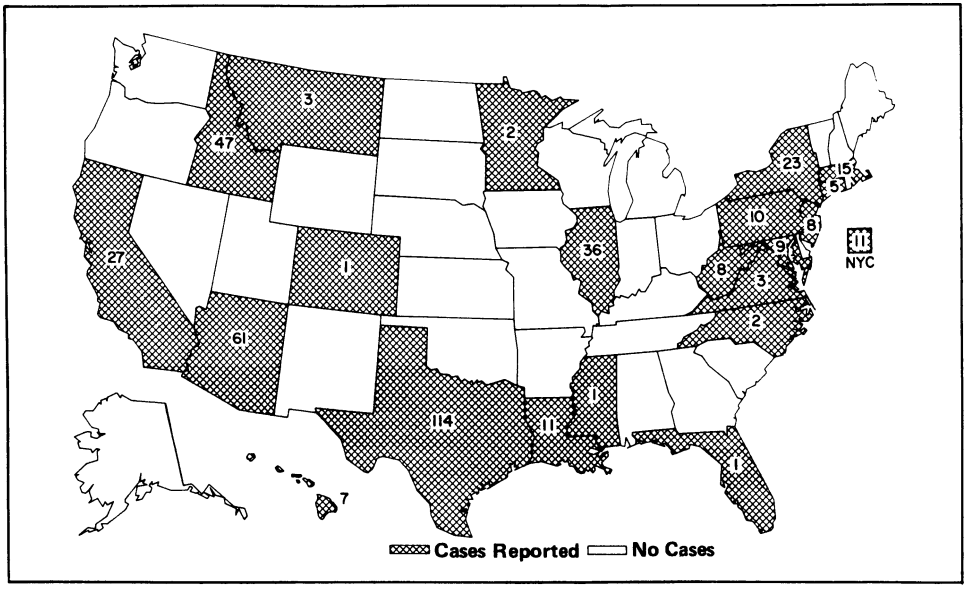
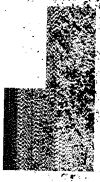
Notice to Readers

Reported Measles Cases — United States

Beginning with this issue of *MMWR*, a map will replace the list of states that have reported measles during the past 4 weeks, which has appeared weekly since April 5, 1985. Cases shown on the map lag 1 week behind those shown in Tables I and III.

FIGURE I. Reported measles cases — United States, weeks 21-24, 1985





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The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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